

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

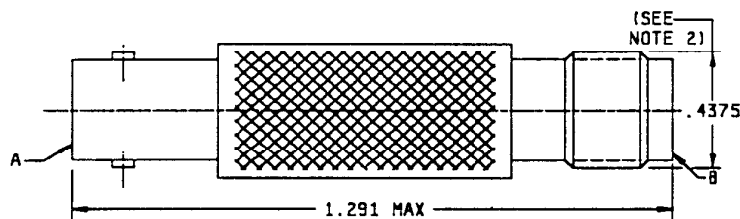
MIL-PRF-55339/37  
11 January 1977

# PERFORMANCE SPECIFICATION

## ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY, (BETWEEN SERIES BNC TO SERIES TNC), CLASS 2, STRAIGHT PLUG

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the connector adapter described herein shall consist of this document and the latest issue of Specification MIL-PRF-55339.



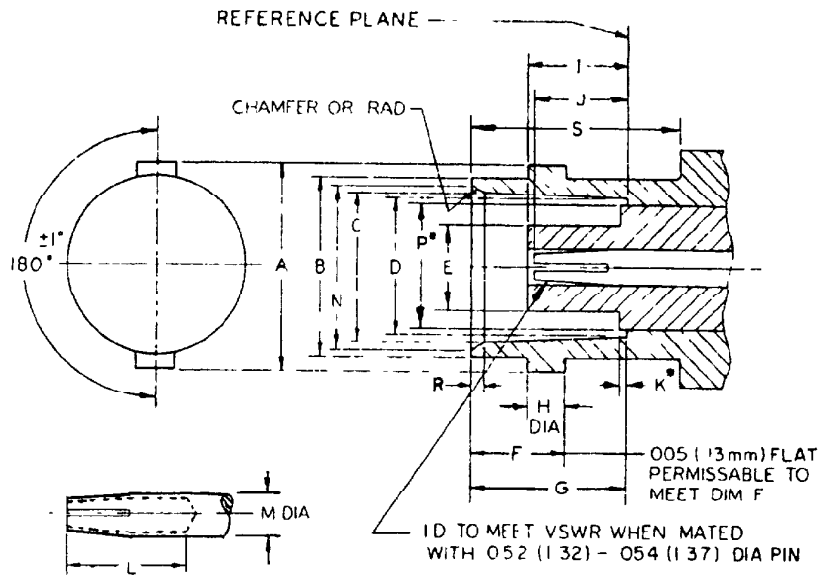
Reference	Series	Contact	Figure
A	BNC	Socket	2
B	TNC	Socket	3

Inches	mm
.381	9.68
.382	9.70
.4375	11.11
1.291	32.79

### NOTES:

- Dimensions are in inches
- This dimension is the largest overall diameter of the connector.
- Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.

FIGURE 1. General configuration.



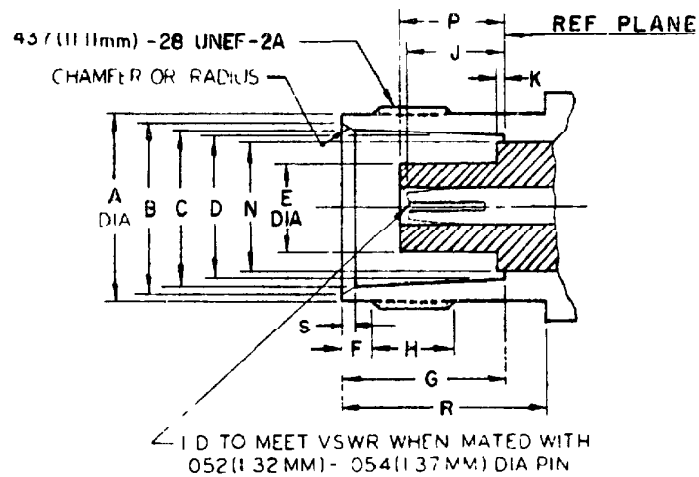
Ltr	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.432 (10.97)	.436 (11.07)
B	.378 (9.60)	.382 (9.70)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E		.186 (4.72)
F	.204 (5.18)	.208 (5.28)
G	.327 (8.31)	.335 (8.51)
H	.075 (1.91)	.081 (2.06)
I		.208 (5.28)
J		.206 (5.23)
K*		.006 (.15)
L	.195 (4.95)	
M	.081 (2.06)	.087 (2.21)
N	.346 (8.79)	.356 (9.04)
P*		.256 (6.50)
R	.015 (.38)	.030 (.76)
S	.414 (10.52)	

\*P dimension applies to that portion (if applicable) of dielectric which extends beyond reference plane by dimension K\*

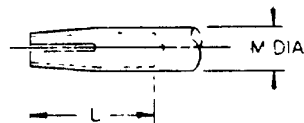
## NOTES

1. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm
2. Concave depression .100 (2.54 mm) X .005 (.13 mm) deep between studs permissible

FIGURE 2 Mating dimensions for socket terminations.



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses (see note)	
	Minimum	Maximum
A	.378 (9.60)	.381 (9.68)
B	.345 (8.76)	.356 (9.04)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E		.186 (4.72)
F	.068 (1.73)	.088 (2.24)
G	.329 (8.36)	.333 (8.46)
H	.187 (4.75)	
J	.188 (4.72)	.206 (5.23)
K		.006 (.15)
L	.195 (4.95)	
M	.081 (2.06)	.087 (2.21)
N		.256 (6.50)
P	.188 (4.78)	.208 (5.28)
R	.415 (10.56)	
S	.015 (.38)	.030 (.76)



\*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder (or reference plane) by dimension K

#### NOTES

- 1 Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm
- 2 All undimensioned pictorial configurations are for reference purposes only

FIGURE 3. Mating dimensions for socket terminations

MIL-A-55339/37

DESIGN AND CONSTRUCTION:

General configuration: See figure 1.

Impedance: 50 ohms, nom.

Working voltage: Sea level - 500 Vrms.  
70,000 feet - 125 Vrms.

Frequency range: 0 to 4 GHz.

Temperature range: -65° to +165°C.

PERFORMANCE (installation torque is not applicable).

Dimensions: See figures 1, 2, and 3.

Center contact retention: Axial force - 6 lb, min. series BNC and TNC  
Torque - Not applicable

Force to engage and disengage:	Longitudinal force -	<u>Series BNC</u>	<u>Series TNC</u>
		3	Not applicable
	Torque - (in. lb, max) -	2.5	2

Mating characteristics

Center contact (socket):

Oversize test pin dia - .057 in, min

Insertion depth - .125 in, min.

No. of insertions - 1.

Max test pin (insertion force test)

Steel test pin dia - .054 in, min

Pin finish - 16 microinches.

Insertion force - 2 lb, max.

No. of insertions - 1.

Min test pin (withdrawal force)

Steel test pin dia - .052 in., max

Pin finish - 16 microinches.

Withdrawal force - 2 oz, min

No. of withdrawals - 1

Permeability: <2 0

Seal.

Pressurized - Not applicable

Weatherproof - Not applicable

Insulation resistance: 5,000 megohms, min.

VSWR: 1:25 1, max at .5 to 4 GHz.

RF leakage (total): -55 dB, min, 3 GHz)

RF insertion loss: .2 dB, max. 3 GHz  
(.115  $\sqrt{F}$  (GHz) dB max tested at 3 GHz).

Durability 500 cycles minimum at 12 cycles/min maximum The connector shall meet the mating characteristics and force to engage and disengage requirements.

Dielectric withstanding Test voltage - 1,500 Vrms, min (sea level).

Contact resistance (milliohms, max):

<u>Contact</u>	<u>Initial</u>	<u>After</u>
Center	2.0	2.5
Outer	0.2	Not applicable

Vibration, high frequency: Interruptions - 1 ms, max.

Shock. Test condition I.

Thermal shock: Test condition C

Moisture resistance 200 megohms, min.

Corona level: Voltage - 375 V, min.  
Altitude - 70,000 feet, min

RF high potential withstanding voltage: RF voltage - 1,000 Vrms, min.  
Frequency - 5 MHz, min.

Salt spray (corrosion): Test condition B

MARKING As specified in MIL-A-55339  
Part No. M55339/37-00001

Custodians  
Army - EL  
Navy - EC  
Air Force - 85

Review activities.  
Army - MU, MI, EL, AT  
Navy - SH  
Air Force - 11, 99  
DSA - ES

User activities:  
Army - AT, MU  
Navy - AS, MC  
Air Force - 19

Preparing activity.  
Army - EL  
  
Agent  
DSA - ES

(Project 5935-2017-13)

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No 22-R255
<p><b>INSTRUCTIONS</b> This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
<p><b>SPECIFICATION</b> MIL-A-55339/37 ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY (BETWEEN SERIES BNC TO SERIES TNC), CLASS 2, STRAIGHT PLUG</p>		
<p><b>ORGANIZATION</b></p>		
<p><b>CITY AND STATE</b></p>	<p><b>CONTRACT NUMBER</b></p>	
<p><b>MATERIAL PROCURED UNDER A</b></p> <p><input type="checkbox"/> DIRECT GOVERNMENT CONTRACT      <input type="checkbox"/> SUBCONTRACT</p>		
<p><b>1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?</b></p> <p><b>A GIVE PARAGRAPH NUMBER AND WORDING</b></p>		
<p><b>B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES</b></p>		
<p><b>2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID</b></p>		
<p><b>3 IS THE SPECIFICATION RESTRICTIVE?</b></p> <p><input type="checkbox"/> YES      <input type="checkbox"/> NO (If "yes" in what way?)</p>		
<p><b>4 REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)</b></p>		
<p><b>SUBMITTED BY</b> (Printed or typed name and activity - Optional)</p>		<p><b>DATE</b></p>

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REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED

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